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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/093,533	06/08/98	MALCOLM	101.1001.02 CASH-001

TM02/0605
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EXAMINER

WANG, M	
ART UNIT	PAPER NUMBER

2171

DATE MAILED:

06/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/093,533

Applicant(s)

MALCOLM ET AL

Examiner

Mary D. Wang

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39-47, 54 and 55 is/are allowed.
- 6) ☒ Claim(s) 15-38, 53 and 58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 18.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Request for Continued Examination

1. The request filed on 3/20/2001 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/093,533 is acceptable and a RCE has been established. An action on the RCE follows.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 15 recites the limitation "said network cache" in lines 7-8 of the claim. There is insufficient antecedent basis for this limitation in the claim. Should it be said cache engine?
5. Claims 16-22 are rejected for incorporating the errors of their respective base claim 15 by dependency.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 15-22, 31-38 and 52-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Bhide et al., U. S. Patent No. 5,852,717.

As per claims 15, 31, 52 and 53, Bhide teaches a method, including steps of:

- a) receiving a set of network objects in response to a first request to a server from a client (column 8 line 5-8 and Fig. 7A);
- b) maintaining said network objects in a cache memory in a cache engine, said cache engine connected via a network to the server and the client, said cache memory including mass storage (abstract and column 4 line 40-57 and column 6 line 27-29 and column 7 line 64-67 and column 8 line 13 and Fig. 4).

As per claim 15, Bhide further teaches:

- c) wherein said step of maintaining substantially minimizes a time required for said network cache to retrieve a network object from said cache memory is taught by Bhide as reducing the latency between a request to the server and receiving a response (abstract and column 7 line 1-3 and 46-50).

As per claim 31, Bhide further teaches:

- c) wherein said step of maintaining includes steps of determining when and where to record (send or receive or store) said network objects, in response to a measure of efficiency of said steps of maintaining or serving network objects (abstract and column 1 line 64 – column 3 line 35).

As per claim 52, Bhide further teaches:

c) wherein said cache memory utilizes non-hierarchical storage is inherent for cache memory.

As per claim 53, Bhide further teaches:

c) wherein said step of maintaining includes step of recording (send or receive or store) said network objects in said memory and retrieving said network objects from said memory, without having to maintain said network objects persistently (abstract and column 1 line 64 – column 3 line 35).

As per claims 16 and 32, said network object include an HTML page to be retrieved from said cache memory and served to the client for display is inherent for such system.

As per claims 17 and 33, Bhide teaches a step of serving said network objects to said client in place of said server (column 8 line 7-8 and Fig. 4).

As per claims 18 and 34, Bhide teaches the network objects are served to said client in place of said server in response to a second request from said client (column 8 line 7-20).

As per claims 19 and 35, Bhide teaches the step of receiving uses a computer network (column 5 line 1-9 and Fig. 3).

As per claims 20 and 36, Bhide teaches the step of receiving is responsive to protocol messages using a computer network, said protocol messages including a resource identifier for each said network object (column 5 line 10-29 and column 7 line 53-54 and column 9 line 14-15, 33-34).

As per claims 21 and 37, Bhide teaches the step of serving is responsive to a resource identifier associated with each said network object (column 9 line 14-15, 33-34).

As per claims 22 and 38, Bhide teaches the step of serving is responsive to a uniform resource locator associated with each said network object (column 8 line 50-53).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhide et al., U. S. Patent No. 5,852,717 in view of Chi, U. S. Patent 5,822,757.

As per claim 23, Bhide teaches a method, including steps of:

- a) receiving a set of network objects in response to a first request to a server from a client (column 8 line 5-8 and Fig. 7A);
- b) maintaining said network objects in a cache memory in a cache engine, said cache engine connected via a network to the server and the client, said cache memory including mass storage (abstract and column 4 line 40-57 and column 6 line 27-29 and column 7 line 64-67 and column 8 line 13 and Fig. 4).

Bhide does not teach the step of maintaining includes steps of optimizing in said mass storage (a) spatial locality of storage of network objects within said mass storage, and (b) temporal locality of retrieval of said network objects from said mass storage.

Chi teaches optimizing spatial locality and temporal locality (abstract and column 3 line 45 – column 5 line 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow Bhide's method to include optimizing the spatial locality and the temporal locality as taught by Chi for improving the cache hit ratio and reducing the bus traffic.

As per claim 24, said network object include an HTML page to be retrieved from said cache memory and served to the client for display is inherent for such system.

As per claim 25, Bhide teaches a step of serving said network objects to said client in place of said server (column 8 line 7-8 and Fig. 4).

As per claim 26, Bhide teaches the network objects are served to said client in place of said server in response to a second request from said client (column 8 line 7-20).

As per claim 27, Bhide teaches the step of receiving uses a computer network (column 5 line 1-9 and Fig. 3).

As per claim 28, Bhide teaches the step of receiving is responsive to protocol messages using a computer network, said protocol messages including a resource identifier for each said network object (column 5 line 10-29 and column 7 line 53-54 and column 9 line 14-15, 33-34).

As per claim 29, Bhide teaches the step of serving is responsive to a resource identifier associated with each said network object (column 9 line 14-15, 33-34).

As per claim 30, Bhide teaches the step of serving is responsive to a uniform resource locator associated with each said network object (column 8 line 50-53).

10. Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhide et al., U. S. Patent No. 5,852,717 in view of Axberg et al., U. S. Patent No. 6,009,466.

As per claims 48-51, Bhide teaches a method, including steps of:

- a) receiving a set of network objects in response to a first request to an information provider (the server) from an information requester (the agent or the client) (column 8 line 5-8);
- b) maintaining said network objects in a cache memory, said cache memory including mass storage (column 4 line 40-43, 54-57 and column 6 line 27-29 and column 7 line 64-65 and column 8 line 13).

Bhide does not teach the step of maintaining includes steps of selecting a group of more than one said network objects to be written/deleted to/from said mass storage collectively, and writing said group of network objects to said mass storage in one or more write episodes.

Axberg teaches a method of selecting a group of more than one network objects, and said objects are also be able to write (save)/delete to/from the mass storage collectively according to the user's instruction (column 5 line 21-23 and column 11 line 1-25 and 54-58 and Fig. 9 and Fig. 12A-12E).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow Bhide's method to include a function of selecting network objects and write/delete them to/from a mass storage collectively according to user's instruction as Axberg teaches because it will allow users only to choose and collect/delete the objects they want. If less objects are selected, it would also accelerate the speed of files transferring, which means a higher efficiency of said procedure is achieved.

Allowable Subject Matter

11. Claims 39-47 and 54-55 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter:

In view of applicant's argument dated 7/18/2000, examiner agrees that the prior art fail to teach or suggest performing at least of: minimizing a rate at which said network objects can be written to said mass storage, maximizing a rate at which said network objects can be erased from said mass storage, maximizing a rate at which said network objects can be retrieved from said mass storage, minimizing a time required for retrieving said network objects from said mass storage as claimed in claims 39-46. As to claim 47, examiner agrees that the prior art fail to teach or suggest maintaining of objects is performed independently of a file system for the mass storage. As to claims 54 and 55, examiner agrees that the prior art fail to teach or suggest atomically committing changes by writing modified data and control blocks to the mass storage without erasing corresponding unmodified data and control blocks and then replacing a root node so as to atomically commit the changes.

Art Unit: 2171

Response to Arguments

13. In response to applicant's argument dated 12/18/2000, examiner has removed the 112 1st paragraph and 112 2nd paragraph rejection in previous office dated 10/2/2000.

Inquire

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Wang whose telephone number is (703) 305-0084. The examiner can normally be reached Monday – Thursday from 8:00 AM to 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached at (703) 305-9707. The fax number for this group is (703) 308-6306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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or faxed to:

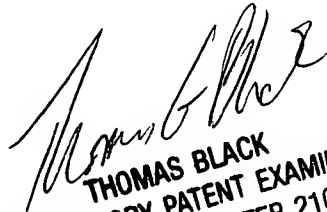
(703) 308-9051 (for formal communications intended for entry)

or:

(703) 305-9724 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Mary Wang
Patent Examiner
Art Unit 2171
June 1, 2001


THOMAS BLACK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100